

Preventive Medicine: The key to protecting animal health and safeguarding public health

While humans and nature seem disconnected in modern times, that is not the reality. As the world has recovered from the devastation of a global pandemic, many hope that answers are being looked for to ensure this situation might never occur again. How we can secure our health, as well as the health of all beings on Earth, not only lies not in human health, but that of animals domestic and wild.

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Zoonoses, diseases and infections naturally transmitted between people and vertebrate animals, have emerged as the most pressing threat to public health. According to the World Health Organisation (WHO), it is estimated globally that around 1 billion illnesses and 1 million deaths occur yearly from animal diseases. Yet, this close correlation is not a problem we tend to think about daily.

Around 60% of emerging infectious diseases globally reported are zoonoses. Over 30 new human pathogens have been detected in the last three decades, 70% of which have originated in animals. This sounds very doom and gloom, but is there a way to improve this situation? The good news is there is: preventative medicine!

Preventative medicine is the cornerstone of creating a more cohesive medical field, contributing not only to improving animal health but also public health. Preventative medicine and vaccination are key to stemming

future pandemics and health issues amongst humans. To counter this growing threat, it is our responsibility as experienced vets to develop efficient vaccines against existing and emerging diseases for wildlife and livestock to maintain public health. On top of all this, vaccines play a crucial role in preventing unnecessary suffering in animals and improving their quality of life.

As a community, veterinarians and scientists must develop preventive solutions for animals to prevent humans from falling ill, using this expertise for the good of all animals and society to protect all aspects of the planet and its inhabitants.

All of this falls under a “One Health” approach to medicine, which is becoming a widespread belief with many companies adopting this method into their ethos and development process. The concept lies in the understanding that the health of humans, animals, and the planet is deeply interconnected and interdependent. Preventative medicine being the cornerstone of a true One Health approach to animal health.

To provide a solid example of the benefits of this approach, the UK recently greenlit the use of three vaccines to reduce the spread of the bluetongue virus in sheep, a virus that is becoming rampant in the eastern region of England. The vaccines are suppressive, meaning they will reduce some of the clinical signs experienced by animals with the disease, but they do not prevent infection. Still, these are valuable steps in reducing the further spread of this illness, as well as minimising the risk of this becoming a zoonotic disease.

But vaccines are not just essential elements of animal health protection, they are also contributing to feeding the planet sustainably and guarantee food security: by providing solutions through preventive programs, the industry helps guarantee the health and resilience of livestock, contributing to our planet’s ability to feed a growing population,

expected to reach nearly 10 billion people by 2050. Healthy animals also mean safer production of essential animal proteins for a balanced diet.

In the vast majority of cases, the range of available vaccines enables farmers to protect their herd. However, a specific solution could be required in cases where a new strain of bacteria or pathogenic virus emerges, or for a disease not covered by any commercially available products, requiring a tailor-made solution. In these cases, autogenous vaccines could become a necessary solution as they can be applied to produce vaccines for a wide range of animals including among others, minor livestock species. The role of autogenous vaccines goes beyond filling the gap when commercial products are unavailable, they also play a crucial role in preventive health management programs, helping to reduce the use of antibiotics and the development of resistance.

This is even more important, knowing that WHO estimates antimicrobial resistance (AMR) as one of the top global threats to public health and development. This emphasises the need for a preventive medicine approach, specialised medication, rational use of antibiotics and stricter regulations regarding testing and manufacturing pharmaceuticals.

Protecting animal health is not just a matter of safeguarding species—it's a critical pillar of public health. By prioritising animal health, we directly protect human health and strengthen the global health and food ecosystem.

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